

# **Appendix G**

## **DESCRIPTIONS OF NATURAL DISASTERS CAUSING MORE THAN \$1.0 BILLION FROM 1980 TO 2001**

<b>Chronological List of U.S. Billion Dollar Events, 1980-2001, NOAA 2002</b>			
<b>Year</b>	<b>Natural Disaster Event</b>	<b>Lives Lost</b>	<b>Approximate Damage</b>
<b>2001</b>	<b>Tropical Storm Allison</b> June 2001. The persistent remnants of Tropical Storm Allison produces rainfall amounts of 30-40 inches in portions of coastal Texas and Louisiana, causing severe flooding especially in the Houston area, then moves slowly northeastward; fatalities and significant damage reported in TX, LA, MS, FL, VA, and PA	<b>43</b>	<b>\$5 billion</b>
	<b>Midwest and Ohio Valley Hail and Tornadoes</b> April 2001. Storms, tornadoes, and hail in the states of TX, OK, KS, NE, IA, MO, IL, IN, WI, MI, OH, KY, WV, and PA, over a 6-day period;	<b>3</b>	<b>\$1.7 billion</b>
<b>2000</b>	<b>Drought/Heat Wave</b> Spring-Summer 2000. Severe drought and persistent heat over south-central and southeastern states causing significant losses to agriculture and related industries	<b>140</b>	<b>\$4 billion</b>
	<b>Western Fire Season</b> Spring-Summer 2000. Severe fire season in western states due to drought and frequent winds, with nearly 7 million acres burned	<b>0</b>	<b>\$2 billion</b>
<b>1999</b>	<b>Hurricane Floyd</b> September 1999. Large category 2 hurricane makes landfall in eastern NC, causing 10-20 inch rains in 2 days, with severe flooding in NC and some flooding in SC, VA, MD, PA, NY, NJ, DE, RI, CT, MA, NH, and VT	<b>77</b>	<b>\$6 billion</b>
	<b>Eastern Drought/Heat Wave</b> Summer 1999. Very dry summer and high temperatures, mainly in eastern U.S., with extensive agricultural losses	<b>502</b>	<b>Over \$1 billion</b>
	<b>Oklahoma-Kansas Tornadoes</b> May 1999. Outbreak of F4-F5 tornadoes hit the states of Oklahoma and Kansas, along with Texas and Tennessee, Oklahoma City area hardest hit	<b>55</b>	<b>\$1.1 billion</b>
	<b>Arkansas-Tennessee Tornadoes</b> January 1999. Two outbreaks of tornadoes in 6-day period strike Arkansas and Tennessee	<b>17</b>	<b>\$1.3 billion</b>
<b>1998</b>	<b>Texas Flooding</b> October-November 1998. Severe flooding in southeast Texas from 2 heavy rain events, with 10-20 inch rainfall totals	<b>31</b>	<b>\$1 billion</b>

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	<b>Hurricane Georges</b> September 1998. Category 2 hurricane strikes Puerto Rico, Florida Keys, and Gulf coasts of Louisiana, Mississippi, Alabama, and Florida panhandle, 15-30 inch 2-day rain totals in parts of AL/FL	<b>16</b>	<b>\$5.9 billion</b>
	<b>Hurricane Bonnie</b> August 1998. Category 3 hurricane strikes eastern North Carolina and Virginia, extensive agricultural damage due to winds and flooding, with 10-inch rains in 2 days in some locations	<b>3</b>	<b>\$1 billion</b>
	<b>Southern Drought/Heat Wave</b> Summer 1998. Severe drought and heat wave from Texas/Oklahoma eastward to the Carolinas	<b>200</b>	<b>\$6-\$9 billion</b>
	<b>Minnesota Severe Storms/Hail</b> May 1998. Very damaging severe thunderstorms with large hail over wide areas of Minnesota	<b>1</b>	<b>\$1 billion</b>
	<b>Southeast Severe Weather</b> Winter-Spring 1998. Tornadoes and flooding related to El Nino in southeastern states	<b>132</b>	<b>\$1billion</b>
	<b>Northeast Ice Storm</b> January 1998. Intense ice storm hits Maine, New Hampshire, Vermont, and New York, with extensive forestry losses	<b>16</b>	<b>\$1 billion</b>
<b>1997</b>	<b>Northern Plains Flooding</b> April-May 1997. Severe flooding in Dakotas and Minnesota due to heavy spring snowmelt; approximately damage/costs	<b>11</b>	<b>\$3 billion</b>
	<b>MS and OH Valleys Flooding and Tornadoes</b> March 1997. Tornadoes and severe flooding hit the states of AR, MO, MS, TN, IL, IN, KY, OH, and WV, with over 10 inches in 24 hours in Louisville	<b>67</b>	<b>\$1 billion</b>
	<b>West Coast Flooding</b> December 1996-January 1997. Torrential rains (10-40 inches in 2 weeks) and snowmelt produce severe flooding over portions of California, Washington, Oregon, Idaho, Nevada, and Montana	<b>36</b>	<b>\$3 billion</b>

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<b>1996</b>	<b>Hurricane Fran</b> September 1996. Category 3 hurricane strikes North Carolina and Virginia, over 10-inch 24-hour rains in some locations and extensive agricultural and other losses	<b>37</b>	<b>\$5 billion</b>
	<b>Southern Plains Severe Drought</b> Fall 1995 through Summer 1996. Severe drought in agricultural regions of southern plains--Texas and Oklahoma most severely affected	<b>0</b>	<b>\$5 billion</b>
	<b>Pacific Northwest Severe Flooding</b> February 1996. Very heavy, persistent rains (10-30 inches) and melting snow over Oregon, Washington, Idaho, and western Montana	<b>9</b>	<b>\$1 billion</b>
	<b>Blizzard of '96 Followed by Flooding</b> January 1996. Very heavy snowstorm (1-4 feet) over Appalachians, Mid-Atlantic, and Northeast; followed by severe flooding in parts of same area due to rain & snowmelt	<b>187</b>	<b>\$3 billion</b>
<b>1995</b>	<b>Hurricane Opal</b> October 1995. Category 3 hurricane strikes Florida panhandle, Alabama, western Georgia, eastern Tennessee, and the western Carolinas, causing storm surge, wind, and flooding damage	<b>27</b>	<b>\$3 billion</b>
	<b>Hurricane Marilyn</b> September 1995. Category 2 hurricane devastates U.S. Virgin Islands	<b>13</b>	<b>\$2.1 billion</b>
	<b>Texas/Oklahoma/Louisiana/Mississippi Severe Weather and Flooding</b> May 1995. Torrential rains, hail, and tornadoes across Texas - Oklahoma and southeast Louisiana - southern Mississippi, with Dallas and New Orleans areas (10-25 inches in 5 days) hardest hit	<b>32</b>	<b>\$5.5-\$6.6 billion</b>
	<b>California Flooding</b> January-March 1995. Frequent winter storms cause 20-70 inches rainfall and periodic flooding across much of California	<b>27</b>	<b>\$3.3 billion</b>
<b>1994</b>	<b>Western Fire Season</b> Summer-Fall 1994. Severe fire season in western states due to dry weather	Undetermined	<b>\$1 billion</b>
	<b>Texas Flooding</b> October 1994. Torrential rain (10-25 inches in 5 days) and thunderstorms cause flooding across much of southeast Texas	<b>19</b>	<b>\$1 billion</b>

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	<b>Tropical Storm Alberto</b> July 1994. Remnants of slow-moving Alberto brought torrential 10-25 inch rains in 3 days, widespread flooding, and agricultural damage in parts of Georgia, Alabama, and panhandle of Florida	<b>32</b>	<b>\$1 billion</b>
	<b>Southeast Ice Storm</b> February 1994. Intense ice storm with extensive damage in portions of TX, OK, AR, LA, MS, AL, TN, GA, SC, NC, and VA	<b>9</b>	<b>\$3 billion</b>
<b>1993</b>	<b>California Wildfires</b> Fall 1993. Dry weather, high winds, and wildfires in southern California	<b>4</b>	<b>\$1 billion</b>
	<b>Midwest Flooding</b> Summer 1993. Severe, widespread flooding in central U.S. due to persistent heavy rains and thunderstorms	<b>48</b>	<b>\$21 billion</b>
	<b>Drought/Heat Wave</b> Summer 1993. Southeastern U.S.	<b>16</b>	<b>\$1 billion</b>
	<b>Storm/Blizzard</b> March 1993. "Storm of the Century" hits entire eastern seaboard with tornadoes, high winds, and heavy snows (2-4 feet)	<b>270</b>	<b>\$3 – \$6 billion</b>
<b>1992</b>	<b>Nor'easter of 1992</b> December 1992. Slow-moving storm batters northeast U.S. coast, New England hardest hit	<b>19</b>	<b>\$1-\$2 billion</b>
	<b>Hurricane Iniki</b> September 1992. Category 4 hurricane hits Hawaiian island of Kauai	<b>7</b>	<b>\$1.8 billion</b>
	<b>Hurricane Andrew</b> August 1992. Category 4 hurricane hits Florida and Louisiana, high winds damage or destroy over 125,000 homes	<b>61</b>	<b>\$27 billion</b>
<b>1991</b>	<b>Oakland Firestorm</b> October 1991. Oakland, California firestorm due to low humidity and high winds	<b>25</b>	<b>\$2.5 billion</b>
	<b>Hurricane Bob</b> August 1991. Category 2 hurricane-- Mainly coastal North Carolina, Long Island, and New England	<b>18</b>	<b>\$1.5 billion</b>
<b>1990</b>	<b>Texas/Oklahoma/Louisiana/Arkansas Flooding</b> May 1990. Torrential rains cause flooding along the Trinity, Red, and Arkansas Rivers in TX, OK, LA, and AR	<b>13</b>	<b>Over \$1 billion</b>

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<b>1989</b>	<b>Hurricane Hugo</b> September 1989. Category 4 hurricane devastates South and North Carolina with ~ 20-foot storm surge and severe wind damage after hitting Puerto Rico and the U.S. Virgin Islands	<b>86</b>	<b>\$9 billion</b>
	<b>Northern Plains Drought</b> Summer 1989. Severe summer drought over much of the northern plains with significant losses to agriculture	<b>0</b>	<b>\$1 billion</b>
<b>1988</b>	<b>Drought/Heat Wave</b> Summer 1988. 1988 drought in central and eastern U.S. with very severe losses to agriculture and related industries	<b>5,000 to 10,000 deaths (includes heat stress-related).</b>	<b>\$40 billion</b>
<b>1986</b>	<b>Southeast Drought/Heat Wave</b> Summer 1986. Severe summer drought in parts of the southeastern U.S. with severe losses to agriculture in damage/costs	<b>100</b>	<b>\$1 - \$1.5 billion</b>
<b>1985</b>	<b>Hurricane Juan</b> October-November 1985. Category 1 hurricane--Louisiana and Southeast U.S.--severe flooding	<b>63</b>	<b>\$1.5 billion</b>
	<b>Hurricane Elena</b> August-September 1985. Category 3 hurricane--Florida to Louisiana;; 4 deaths.	<b>4</b>	<b>\$1.3 billion</b>
	<b>Florida Freeze</b> January 1985. Severe freeze central/northern Florida	<b>0</b>	<b>\$1.2 billion</b>
<b>1983</b>	<b>Florida Freeze</b> December 1983. Severe freeze central/northern Florida	<b>0</b>	<b>\$2 billion</b>
	<b>Hurricane Alicia</b> August 1983. Category 3 hurricane--Texas	<b>21</b>	<b>\$3 billion</b>
	<b>Western Storms and Flooding</b> 1982 - Early 1983. Storms and flooding related to El Nino, especially in the states of WA, OR, CA, AZ, NV, ID, UT, and MT	<b>45</b>	<b>\$1.1 billion</b>
	<b>Gulf States Storms and Flooding</b> 1982 - Early 1983. Storms and flooding related to El Nino, especially in the states of TX, AR, LA, MS, AL, GA, and FL	<b>50</b>	<b>\$1.1 billion</b>

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<b>1980</b>	<b>Drought/Heat Wave</b> June-September 1980. Central and eastern U.S.	<b>10,000 deaths (includes heat stress-related)</b>	<b>\$20 billion</b>